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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,169

12/16/2005

Serge Gidon

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12/05/2008

OLIFF & BERRIDGE, PLC

P.O. BOX 320850

ALEXANDRIA, VA 22320-4850

EXAMINER

GIESY, ADAM

ART UNIT

PAPER NUMBER

2627

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DELIVERY MODE

12/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/561,169	Applicant(s) GIDON, SERGE	
	Examiner ADAM R. GIESY	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 18-34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Independent claims 18 and 22 are written with no distinction between claimed limitations and the preamble. Examiner is unsure of where the preamble stops and where the claimed limitations begin for either independent claim. Since the preamble is treated separately from the claimed limitations, Examiner asserts that this renders the claims indefinite.

For purposes of further prosecution, Examiner will read the following material as the preamble of each claim:

Claim 18 – A method for recording data by means of an array of micro-tips arranged in a plane facing a memory support, comprising a stack of thin layers with at least one deformable memory layer, method comprising data recording by selective actuation of the micro-tips, wherein, the micro-tips being fixed directly onto one and the same support substrate, the method comprises:--

Claim 22 – A Recording device for implementation of the method according to claim 18, comprising:--

Examiner will read all recitations after the cited phrases above to be claim limitations. Attention is required.

The term "about" in claim 28 is a relative term which renders the claim indefinite. The term "about" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. Examiner asserts that it is unclear what "about a few micrometers" means. Clarification is needed.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 18-25 and 29-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Vettiger et al. (hereinafter Vettiger – The "Millipede" – More than one thousand tips for future AFM data storage).

Regarding claim 18, Vettiger discloses a method for recording data by means of an array of micro-tips arranged in a plane facing a memory support, comprising a stack of thin layers with at least one deformable memory layer, method comprising: data recording by selective actuation of the micro-tips (see page 325, The Millipede concept – Examiner notes that this is the main principle behind the Millipede), wherein, the micro-tips being fixed directly onto one and the same support substrate (see page 325, Figure 1 – note that all probes are attached to the same chip), the method comprises bringing the array of micro-tips and the memory support into contact with a predetermined pressure, before selective actuation of micro-tips for data recording (see

page 325, left column, lines 4-7 after the title “The Millipede concept”), said pressure enabling the dispersion of the dimensions of the micro-tips of the array of micro-tips to be absorbed by the deformable memory layer (suggested on page 325, right column, lines 13-18).

Regarding claim 19, Vettiger discloses all of the limitations of claim 18 as discussed in the claim 18 rejection above and further that the data recording is of electric type (see page 326, Figure 2 - Examiner notes that the substrate is made of silicon, and thus satisfies the definitions of electrical type recording as recited in the instant specification since the specification requires only a substrate with a conductive layer).

Regarding claim 20, Vettiger discloses all of the limitations of claim 18 as discussed in the claim 18 rejection above and further that the data recording is of thermal type (see page 326, right column, ‘Thermomechanical AFM data storage’).

Regarding claim 21, Vettiger discloses all of the limitations of claim 18 as discussed in the claim 18 rejection above and further that the data recording is performed by applying a mechanical pressure greater than the pressure of bringing into contact (see page 326, right column, note lines 9-11 after the title ‘Thermomechanical AFM data storage’).

Regarding claim 22, Vettiger discloses a recording device for implementation of the method according to claim 18, comprising: an array of micro-tips arranged in a plane facing a memory support, comprising a stack of thin layers with at least one deformable memory layer (see page 326, Figure 2 – note Si substrate), means for absorbing the

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dispersion of the dimensions of the micro-tips of the array (see page 326, Figure 2 – note Si substrate) and means for recording by selective actuation of the micro-tips (see page 325, The Millipede concept – Examiner notes that this is the main principle behind the Millipede), wherein the deformable memory layer constitutes said means for absorbing when the memory support and the array of micro-tips are brought into contact (see page 326, right column, ‘Thermomechanical AFM data storage’), at said predetermined pressure, the micro-tips, having an apex of nanometric dimension, being fixed directly onto one and the same support substrate (see page 323,—abstract; see also page 325, Figure 1).

Regarding claim 23, Vettiger discloses all of the limitations of claim 22 as discussed in the claim 22 rejection above and further that the memory layer is deposited on a flexible layer deposited on the substrate (see page 327, left column, lines 3-8).

Regarding claim 24, Vettiger discloses all of the limitations of claim 23 as discussed in the claim 23 rejection above and further that the flexible layer is made of polymer (see page 327, left column, lines 3-8).

Regarding claim 25, Vettiger discloses all of the limitations of claim 24 as discussed in the claim 24 rejection above and further that the flexible layer is made of photoresist (see page 327, left column, lines 3-8).

Regarding claim 28, Vettiger discloses all of the limitations of claim 23 as discussed in the claim 23 rejection above and further that the flexible layer has a thickness of about a few micrometers (page 326, see Figure 2).

Regarding claim 29, Vettiger discloses all of the limitations of claim 23 as discussed in the claim 23 rejection above and further that the flexible layer is conducting (see page 326, right column, second paragraph after 'Thermomechanical AFM data storage' – Examiner notes that Si and PMMA are both excellent heat conductors).

Regarding claim 30, Vettiger discloses all of the limitations of claim 23 as discussed in the claim 23 rejection above and further comprising an additional conducting layer between the memory layer and the flexible layer (see page 327, left column, lines 3-8 – Examiner notes that photoresist is an excellent conductor of heat).

Regarding claim 31, Vettiger discloses all of the limitations of claim 22 as discussed in the claim 22 rejection above and further that the memory layer has a thickness of less than one micrometer (see page 326, Figure 2).

Regarding claim 32, Vettiger discloses all of the limitations of claim 22 as discussed in the claim 22 rejection above and further comprising an interface layer with the micro-tips, covering the memory layer (see page 326, right column, second paragraph after 'Thermomechanical AFM data storage').

Regarding claim 33, Vettiger discloses all of the limitations of claim 22 as discussed in the claim 22 rejection above and further that the substrate is made of silicon (see page 326, Figure 2).

Regarding claim 34, Vettiger discloses all of the limitations of claim 22 as discussed in the claim 22 rejection above and further that the substrate is made of plastic material with a thickness of less than one millimeter (see page 326, Figure 2).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vettiger et al. (hereinafter Vettiger – The “Millipede” – More than one thousand tips for future AFM data storage).

Regarding claim 26, Vettiger discloses all of the limitations of claim 23 as discussed in the rejection of claim 23 (above). Vettiger does not disclose that the flexible layer is a glue of controller hardness. Vettiger does disclose that there is a layer of photoresist (see page 327, left column, lines 3-8) which can be made hard. It would have been an obvious matter of design choice to use any substance which can be permanently set at a controller hardness since the applicant has not disclosed that glue of controlled hardness solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with photoresist.

Regarding claim 27, Vettiger discloses all of the limitations of claim 23 as discussed in the rejection of claim 23 (above). Vettiger does not disclose that the flexible layer is an elastomer silicone. Vettiger does disclose that there is a layer of photoresist (see page 327, left column, lines 3-8) which can be made hard. It would have been an obvious matter of design choice to use any substance which can be permanently set at a controller hardness since the applicant has not disclosed that an

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elastomer silicone solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with photoresist.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADAM R. GIESY whose telephone number is (571)272-7555. The examiner can normally be reached on 8:00am- 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on (571) 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ARG 11/21/2008

/Adam R. Giesy/
Examiner, Art Unit 2627

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627